GISette
Email Newsletter

March 2012

Welcome to the forty-seventh edition of the **MassGIS GISette**, a bi-monthly newsletter e-mailed to more than 1,800 members of the geospatial community to keep them informed of data updates, activities at MassGIS, general GIS events, and on-going technology developments. A page on our website has been created for the GISette. There you will find back issues of the GISette and an online subscription form.

While our primary intent in publishing the GISette is to disseminate information related to MassGIS initiatives and data development in particular, we also see the GISette as a means of communicating public agency GIS news. So we encourage readers to send in updates or announcements concerning public agencies that they would like included in the GISette. We particularly want to encourage submission of announcements concerning data development projects. Announcements should be sent to Paul Nutting at paul.nutting@state.ma.us.

Building Massachusetts' Spatial Data Infrastructure (MSDI)

Standardizing Assessor's Parcel Mapping

The first 152 towns of the Level 3 assessor parcel data are now available for download. Standardized, high quality assessor parcel maps are an important component of the Massachusetts Spatial Data Infrastructure. The Level 3 datasets comprise the best available digital representations of municipal assessor parcels, both in terms of spatial accuracy and database completeness and currency. As data for more communities pass MassGIS' quality assurance process they will be posted for free download. MassGIS expects data for approximately 120 more municipalities will be available by this summer.

Datasets

Data for a single town includes three feature classes – tax parcels, other legal interests, and miscellaneous features. Each town's dataset also includes an extract from that community's assessor database plus two lookup tables. In addition, a relationship class has been established linking the assessor database to the tax parcel polygons. For full metadata and links to the free data download page, display and download instructions for OLIVER, and the current availability status map, please visit http://www.mass.gov/mgis/L3parcels.htm.

Downloading the data (FTP method)

The Level 3 parcel data is available for download by municipality as zipped shapefiles/.dbf tables and a file geodatabase. Each town's download .zip includes a layer file that facilitates display in ArcMap. The layer file in the shapefile includes a relate between the assessor table and the tax parcels in lieu of the GDB-based relationship class.

Display and Download in OLIVER

To download data for a single municipality when viewing the Level 3 parcel data in OLIVER, add the "Political / Administrative Boundaries > Assessors Parcels > Parcels Level 3 FTP Download Links by Town" layer. When you use the "identify" tool on a town, you will see hyperlinks in the SHAPE_LINK and FGDB_LINK fields, for the shapefile and file geodatabase downloads, respectively. Click on a hyperlink in the Identify Results box to download a zipped file containing all the data for that municipality. (Note: the zip files you download in this manner are the same files downloadable from the Level 3 Parcels FTP download page.) Adding the "Parcel Status" layer will display the level of parcel data for each town.

This permalink will open OLIVER with the download and status layers added.

This permalink will open OLIVER with the parcel data (zoomed in to a small area) along with the download layer added.

Maintaining Standardized Assessor Parcel Mapping

An obvious question about MassGIS' project for standardizing assessor mapping is whether or not the communities will maintain the standardized data. Many communities have indicated that they will. Maintaining the standardized mapping will not typically cost communities more than maintaining any other version of their mapping. However, the standardized mapping may not include some features that communities find they need. In that situation, the community will have to spend the money to add those missing features. For example, MassGIS' standardization project did not include the lot line dimensions or other customizations such as landmark features. These features are not present on all assessor maps but some assessors rely on having this information. Note that some features on assessors maps, such as water bodies, wetlands, and street names can be added using data available through MassGIS. Many communities have chosen to pay for upgrading the standardized parcel mapping from MassGIS so that it includes lot line dimensions and other features.

The digital parcel standard requires linking parcels on the map to an assessing database extract. This link depends on a unique location identifier (the "LOC_ID") created as part of standardizing the parcel mapping; the LOC_ID is associated with every parcel on the map and with each corresponding entry in the assessing data extract. If the LOC_ID were found directly in the assessor's database, recreating the link with an up-to-date

extract would be easier; it would also then be feasible to directly link the assessor mapping to the assessing database. About 85% of the communities in the state use one of four computer assisted mass appraisal, or "CAMA" software packages. The providers of these software products have told MassGIS staff that adding this LOC_ID to their customer's databases as a unique link to the assessor's parcel mapping is not complicated. MassGIS has been working closely with Patriot, the municipal CSC consortium, and PK-Systems on testing the specific steps; Hopkinton (Patriot – thank you Bob Bushway!) and Carver (PK-Systems – thank you Ellen Blanchard!) have already successfully made this transition. MassGIS encourages GIS or assessing staff from communities where standardized mapping has been created to ask their CAMA software vendors about this issue or to contact Neil MacGaffey at MassGIS.

In summary, maintaining standardized parcel mapping requires two related steps. First, a community must specify compliance with Level 3 of the MassGIS Digital Parcel Standard in their maintenance agreements or contracts. Second, communities must also require that their map maintenance providers return a list of LOC_IDs for new parcels or for parcels that have been substantially re-configured. Then, in turn, these new LOC_IDs must be added to the relevant CAMA database records. MassGIS will provide quality assurance (QA) for any community that wants their mapping checked for compliance with the standard. If any readers have questions about or needs advice on any of the above information, please contact Neil MacGaffey at MassGIS (neil.macgaffey@state.ma.us or 617-619-5641).

Statewide Structure Mapping

Our last issue mentioned the competitive procurement for acquiring statewide mapping of structure rooflines. Rolta International has been selected for this contract. Rolta will map structure roof outlines across the Commonwealth from 2011 Digital Globe imagery. MassGIS recently licensed this imagery for use by state, regional and municipal government agencies (or their sub-licensed contractors). The project will cover the entire state, although western MA and the mid-Cape will be completed at the end of the project as structures in those areas will be delineated using spring 2012 licensed imagery (yet to be flown, for those two areas only).

Portalization of the MassGIS Website

Beginning last fall, the Mass.gov team at the Information Technology Division (ITD) began moving the websites of state agencies to the new Mass.gov portal. As with much of the Commonwealth's IT infrastructure, the agency websites were historically developed without much consideration for what was happening at other agencies, or in the Commonwealth as a whole. Under the Patrick/Murray administration, an ambitious IT consolidation effort to provide centralized IT infrastructure has been ongoing for several years. This consolidation project included standardization of state agency web sites consistent with the IT consolidation goals of cost savings, more transparency and consistency, and a more user friendly experience. The MassGIS website has been a

dynamic resource for thousands of users, and will continue to be a valuable resource as we move the MassGIS website to the new portal.

In the coming months, staff will be working to reconfigure existing pages to fit the portal templates. This will provide an opportunity to retire irrelevant pages and update content to reflect MassGIS' current mission to develop, maintain, and provide access to the Massachusetts Spatial Data Infrastructure (MSDI). As we move through this process, we'll do our best to minimize the occurrence of broken links and repair any a.s.a.p.

Database Updates

- **MassDEP 2010 Integrated List of Waters (305(b)/303(d)) Layers -1/9/2012**

  The MassDEP Division of Watershed Management (DWM), Watershed Planning Program (WPP) 2010 Integrated List of Waters (305(b)/303(d)) data layer represents the combined reporting elements for the 2010 cycle of both sections 305(b) and 303(d) of the Federal Clean Water Act (CWA). The objective of this statute is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Available is full metadata, links to free downloads in shapefile and file geodatabase formats.

- **Protected and Recreational OpenSpace Layers – 1/6/2012**

  Since the last web publication in October 2011, the protected open space editors at EEA, DCR, DFG, and DAR continued to make many enhancements to the Protected and Recreational Open Space database. 1,186 editing tasks were performed in 136 municipalities, cumulatively adding over 8,300 acres of permanently conserved areas to the database. Many new grant-funded acquisitions and agricultural preservation restriction were recently digitized and fifty-five conservation restrictions were mapped throughout the state.
  Of particular note was the acquisition of a conservation restriction on nearly 3,500 acres of land in the Pioneer Valley. This project was the result of a partnership between the Department of Fish and Game, the Kestrel Land Trust, Franklin Land Trust and W.D. Cowls, Inc. It represents the largest tract of privately held conservation land in Massachusetts.
  New shapefiles and a personal geodatabase have been placed on our ftp site, representing data updated as of 1/6/12.

- **FEMA floodplain data, named the National Flood Hazard Layer (NFHL) – 1/24/2012**

The NFHL incorporates all Digital Flood Insurance Rate Map (DFIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters of Map Revision (LOMRs) that have been issued against those databases since their publication date. The DFIRM Database is the digital, geospatial version of the flood hazard information (location and attributes for boundaries of flood insurance risk zones) shown on the published paper Flood Insurance Rate Maps (FIRMs).

In addition to ftp download, you may view and download the data from OLIVER from Available DataLayers: Regulated Areas > FEMA Flood Zones > FEMA National Flood Hazard Layer

As you will see on the status map, areas currently available for Massachusetts include:

- **All** of **Middlesex**, **Suffolk**, **Bristol** and **Dukes counties**.
- About **half** of **Worcester County**.
- The **municipalities** of **Quincy**, **Salisbury** and **Westwood**.

As more data become available from FEMA, MassGIS will incorporate the data into the statewide layer.

- **MBTA Rapid Transit subway lines and stations – 2/2/2012**

  Updates include new and improved linework and station locations. Data represent the "T" network as of February 2012. The ROUTE attribute, which provides a detailed description for each line, was added to both the line and point feature classes. The TERMINUS attribute, indicating stations at the start/end of each line, was added to the point feature class. Go here for full metadata and a link to free data download

- **Dams point layer from the Department of Conservation Resources – 2/6/2012**

  The Massachusetts Dams data layer contains points derived from a dam safety database maintained by the Massachusetts Office of Dam Safety (ODS). The ODS database includes detailed information about each dam for operational purposes.
  The data may be viewed in OLIVER under Available Datalayers: Infrastructure > Dams. OLIVER also includes a data download tool.

- **Massachusetts Coastal Zone GIS layers – 2/9/12**

  The data were updated to represent the Massachusetts coastal zone as defined in the October 2011 Massachusetts Office of Coastal Zone Management Policy Guide (the most recent description of the official Massachusetts coastal zone). Also, the CSTZONE_ARC layer is being rereleased and the CSTZONE_ANNO_NAME (annotation layer) is discontinued.

- **New Legislative Districts Layers – 3/16/12**

  At press time, the posting of the new layers created by the Special Joint Committee on Redistricting (and edited by MassGIS for uniformity) is imminent. There are 4 layers based on the 2010 Census that will be first used in the fall 2012 elections; at this point, no one represents these new districts so no values are added to most of the field names, except for the name of the district. After the fall elections results are complete, MassGIS will populate these fields. MassGIS added several fields to the original data, as well as clipped it to the 100K coastline.
  The four are:
  - U.S. Congress
  - State Senate
  - State House of Representatives
  - Governor's Council

Online Mapping

MassGIS is pleased to release the latest versions of OLIVER and MORIS (the "ocean" OLIVER). Developed by MassGIS, CZM and SeaPlan (formerly Massachusetts Ocean Partnership), this version of OLIVER includes many enhancements and bug fixes:

- More basemaps including Bing, OpenStreetMap, CloudMade and TopOSM
- Better printing
- Now 3 ways to extract data (by bounding box, by drawn shape or by selected feature shape)
- Ability to change the color of points, lines and polygons (within a limited palette)
- Permalink URLs (to send or bookmark) that support color changes and opacity - so that the link you send exactly represents your map!
- Ability to add selected external (from non-MassGIS servers) WMS layers
- Streamlined data extract process
- Bigger, more visible buttons and banner
- Dropdown to zoom directly to town (OLIVER only)

In addition to the above standard features, OLIVER is now more configurable to create and host custom viewers for other state agencies. Depending upon agency needs, we could add custom datasets, titles, logos, default layers and geographic extents. Further enhancements have been made that allow for:

- Drawing and editing to live database layers (including optional snapping and splitting)

- Configurability for many buttons and tools to be hidden if not needed
- Dropdown options to zoom to extents; optionally narrow down dropdown choices within geographies

For information, contact aleda.freeman@state.ma.us or for more information on configuration options see OLIVER developers documentation and configuration examples. The OLIVER toolkit is an open source project that can be found on Google code as the "morisoliver" project.

Announcements

Get Outdoors Mobile App Contest In January, the Executive Office of Energy and Environmental Affairs announced a competitive contest to create a mobile app that would feature outdoor recreation opportunities and natural resources in the Commonwealth. Prospective apps will use MassGIS' webservices to fetch data. The deadline for submissions is March 30th. An upcoming issue of the GISette will feature the winning app.

Spring NEARC Call for Presentations The date, location and schedule for the annual Spring Northeast ARC users Group has been announced. The conference is Tuesday, May 22, 2012 at the Smith College Campus center in Northampton, MA. The presentation proposal deadline is March 23, 2012.

Any comments or suggestions about the GISette are welcome – send to paul.nutting@state.ma.us.

MassGIS - The Commonwealth's Office of Geographic Information is located within the Information Technology Division at the Executive Office of Administration and Finance and is charged with the collection, enhancement, storage and dissemination of the Commonwealth's geographic data and information.

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